

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
25 November 2004 (25.11.2004)

PCT

(10) International Publication Number
WO 2004/100885 A2

- (51) International Patent Classification⁷: **A61K**
- (21) International Application Number:
PCT/US2004/014263
- (22) International Filing Date: 7 May 2004 (07.05.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/469,233 9 May 2003 (09.05.2003) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: COMPOSITIONS AND METHODS FOR TREATING CANCER

(57) Abstract: Methods of treating individuals identified as having cancer using ATP citrate lyase inhibitor and/or tricarboxylate transporter inhibitor are disclosed. Methods of inducing apoptosis in cancer cells using an ATP citrate lyase inhibitor and/or tricarboxylate transporter inhibitor are disclosed. Methods of treating an individual who has cancer comprising the steps of identifying the cancer as having a high rate of aerobic glycolysis, and administering an ATP citrate lyase inhibitor and/or tricarboxylate transporter inhibitor are disclosed. Methods of treating individuals who have cancer using compounds that inhibit the expression of ATP citrate lyase or tricarboxylate transporter are disclosed. Methods of identifying a compound with anticancer activity are disclosed.